REMARKS/ARGUMENTS

Claims 1, 4, 6, 8-20, 22-34 are pending. Claims 1, 4, 6, 8, 10-12, 20, 22-25 and 32 are amended, claims 5 and 7 are cancelled and new claims 33-34 are added.

Applicant's undersigned attorney thanks Examiner Olaniran for her time for the interview on June 9, 2011.

Please note that the Information Disclosure Statement filed on January 4, 2011 has not been acknowledged. It is respectfully requested that the IDSs filed **January 4, 2011** and **July 15, 2011** be considered, initialed, and returned with the next office communication.

Claims 4, 9-10, 12, 22 are objected to as being dependent upon a rejected claim, but would be allowable if rewritten in an independent form including all of the limitation of their base claims, and overcoming the 112 rejection. Claims 4and 22 rewritten in an independent form including all of the limitation of their base claims 1 and 20, respectively. Accordingly allowance of claims 4 and 22, and their corresponding dependent claims is respectfully requested.

Claims 1, 20 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. In view of the amendments to claims 1, 20 and 32, it is respectfully requested that the above rejections be withdrawn.

Claims 1, 5-8, 13-15, 17-20, 23-25, 28-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley (U.S. 5,463,694) in view of Feng et al. (U.S. 7,076,072). Claims 11 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley in view of Feng et al. and further view of Masuda et al. (U.S. 5,384,843). Claims 16 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley in view of Feng et al and further in view of Warren (U.S. 7,471,798). Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradley in view of Feng et al. in view of Hoshuyama (U.S. 5,627,799). Applicant submits that all of the claims currently pending in this application are patentably distinguishable over the cited references for the following reasons, and reconsideration and allowance of this application are respectfully requested.

Independent claim 1 includes, among other limitations, "wherein the first signal weight and the second signal weight are calculated for a series of frames, each frame having a predetermined length including first signal samples and second signal samples," and "wherein the first signal weight and the second signal weight are smoothed to minimise frame-to-frame variation in the calculated weights." None of the cited references, alone or in combination, teach or suggest the above limitations.

First, none of the cited references, alone or in combination, teach or suggest "wherein the first signal weight and the second signal weight are calculated for a series of frames, each frame having a predetermined length including first signal samples and second signal samples." With respect to the original dependent claim 5, which included a similar limitation, the Examiner cites to FIGs. 6-7, and col. 8, lines 21-40 of Feng as disclosing the original limitation. (Office action, page 6, last paragraph.). Applicant respectfully disagrees. The above description refers to FIG. 7 and describes a process in which an FFT is performed on the signal (stage 146), then the weights are applied to produce an output spectra Y(k) (stage 150, see also, col. 8, lines 28-30). Therefore, the weights are already applied to the output spectra Y(k). After the weights are applied and the output spectra Y(k) is generated, an inverse FFT is performed in stage 152 "to change the Y(k) FFT determined in stage 150 into a discrete time domain form designated y(z)." One with ordinary skills in the art would readily recognize that an inverse FFT to change a signal back to a discrete time domain form has to correspond to the FFT that was performed on the signal. The cited text further discloses:

> It should be understood that correspondence between Y(k) FFTs and output sample y(z) can vary. In one embodiment, there is one Y(k) FFT output for every y(z), providing a one-to-one correspondence. In another embodiment, there may be one Y(k) FFT for every 16 output samples y(z) desired, in which case the extra samples can be obtained from available Y(k) FFTs. In still other embodiments, a different correspondence may be established.
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> Id., lines 33040, emphasis is added.

It is clear from the above description that the various number of sample correspondences is between the Y(k), which already includes the applied weights and the output sample y(z). Therefore, the above description does not teach or suggest "wherein the first signal weight and the second signal weight are calculated for a series of frames," as recited in claim 1.

In other words, there is no weight calculation for a series of frames in Feng. In fact, Feng teaches away from this by emphasizing that the "Conditional 144 can correspond to an operator switch, control signal, or power control." (Col. 5, lines 58-60). That is, the "chuck of data" coming in to have FFT performed thereon can not have a fixed size, for example, a frame.

Bradley does not cure the above deficiencies f Feng.

Second, none of the cited references, alone or in combination, teach or suggest "wherein the first signal weight and the second signal weight are smoothed to minimise frame-to-frame variation in the calculated weights." With respect to the original dependent claim 7, which included a similar limitation, the Examiner agrees that "Feng does not explicitly discloses" this limitation. However, the Examiner take official notice that "smoothing a weight, gain or coefficient value in order to avoid artifacts or abrupt changes in an audio processing system [is] well known in the art at the time of the invention." (Office action, page 7, third paragraph.). Applicant respectfully disagrees.

Smoothing an audio signal may or may not be well known in the art, however, smoothing "the first signal weight and the second signal weight," which "are calculated in a non-iterative manner," on a frame-by-frame basis "to minimise frame-to-frame variation in the calculated weights," was not known at the time the invention was made.

Furthermore, Applicant respectfully submits that the Official Notice taken by the Examiner is not proper, because the Examiner has not presented a documentary evidence and "the facts asserted by the Examiner are not capable of instant and unquestionable demonstration as being well-known."

MPEP Section 2144.03(A) provides that "It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For

example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art. *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21. See also *In re Grose*, 592 F.2d 1161, 1167-68, 201 USPQ 57, 63 (CCPA 1979) ("[W]hen the PTO seeks to rely upon a chemical theory, in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of that theory."); *In re Eynde,* 480 F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973) ("[W]e reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice.").

Moreover, that section of MPEP emphasizes that "It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697 ("[T]he Board cannot simply reach conclusions based on its own understanding or experience-or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings."). While the court explained that, "as an administrative tribunal the Board clearly has expertise in the subject matter over which it exercises jurisdiction," it made clear that such "expertise may provide sufficient support for conclusions [only] as to peripheral issues." *Id.* at 1385-86, 59 USPQ2d at 1697."

As a result, based on MPEP and the case law, the above-mentioned Official Notice is improper.

Accordingly, amended independent claim 1 is not obvious in view of Bradley and Fang and therefore is patentable over the cited references.

Amended independent claims 20 and 32 include similar limitations and therefore they are also patentable over the cited references.

New dependent claim 33 includes the additional limitation of "wherein the first signal weight and the second signal weights are calculated in time domain." It is clear that Feng

calculates and applies the weights in the frequency domain and not time domain and Bradley does not cure this deficiency of Feng.

Consequently, new dependent claim 33 is also allowable over the cited references, as being dependent from the allowable independent claim 1 and for the additional limitation it includes therein.

New dependent claim 34 includes the additional limitation of "wherein said one of two omni-directional microphones is a front microphone and the other one of omni-directional microphone is a rear microphone, and wherein the front and rear microphones are matched." There is no disclosure in either Feng or Bradley about an "omni-directional front microphone," and an "omni-directional rear microphone" that are matched.

Therefore, new dependent claim 34 is also allowable over the cited references, as being dependent from the allowable independent claim 1 and for the additional limitation it includes therein.

Remaining dependent claims 6, 8-19, and 22-31 are dependent, directly or indirectly, from allowable independent claims 1 and 20, respectively and therefore include all the limitations of claims 1 and 20, and additional limitations therein. Accordingly, these claims are also allowable over the cited references, as being dependent from the allowable independent claims 1 and 20 and for the additional limitations they include therein.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is now in condition for allowance, and accordingly, reconsideration and allowance are respectfully requested.

Respectfully submitted,
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RRT/clm